NOAA's Climate Program Office and Office of National Marine Sanctuaries Tackle Community Climate Impacts Together

Climate Program Office (CPO)

CPO funds high-priority science to advance understanding of climate variability and change to enhance society's ability to plan and respond. This science provides knowledge about vulnerabilities and impacts to our economy, natural resources, and well-being. CPO supports research that is conducted at local, regional, national, and international scales.

CPO also provides strategic guidance for NOAA's climate science and services programs and supports the agency's contributions to the U.S. Global Change Research Program (USGCRP) and the Interagency Climate Change Adaptation Task Force. CPO plays an active role in numerous international climate activities, including the Intergovernmental Panel on Climate Change (IPCC) and the Global Framework for Climate Services initiative launched by the 2009 Third World Climate Conference.

Office of National Marine Sanctuaries (ONMS)

The National Marine Sanctuary System (NMSS), managed by the ONMS, consists of fourteen marine protected areas that encompass more than 150,000 square miles of marine and Great Lakes waters. The system includes thirteen national marine sanctuaries and the Papahanaumokuakea Marine National Monument. NMSS sites embrace critical trust resources of the U.S. Within their protected waters, giant humpback whales breed and calve their young, temperate and tropical reefs flourish, and shipwrecks tell maritime history stories. Sanctuary habitats include beautiful rocky reefs, lush kelp forests, spectacular deep-sea canyons, and underwater archaeological sites. Ranging in size from less than one square mile to 137,792 square miles, each sanctuary site is a unique place warranting special protections.

CPO/ONMS Cooperation

Impacts from climate change are simply too large for any one office, program, or even agency to face alone. Partnerships across NOAA have been formed to achieve the agency's mission of science, service, and stewardship. CPO and ONMS have built a strong partnership to link scientific expertise, knowledge, and tools to the needs of decision makers with resource management and conservation responsibilities. ONMS provides a place-based focal point for applying NOAA's climate capabilities to understanding and protecting marine resources. The NMSS sites provide community connections, controlled research areas, and opportunities to test and refine decision support tools. These relationships have already proven invaluable in just the last few years through efforts such as:

- GFNMS has received funding, through a SARP (Sectoral Applications Research Program; now the Coastal and Ocean Climate Applications Program) grant to build a user-driven online decision support tool to help coastal managers in the San Francisco Bay area plan for and respond to sea level rise and storm hazards;
- CPO recently provided $5,000 for printing of a new curriculum that includes climate literacy elements under the MERITO (Multicultural Education for Resource Issues Threatening Oceans) program, a marine conservation outreach effort for expanding bilingual (Spanish and English) outreach programs in sanctuaries developed by ONMS's West Coast sites; and
- CPO and ONMS, along with other NOAA, Department of the Interior, and Environmental Protection Agency programs, communicate and coordinate through the informal Marine Protected Areas (MPAs) and Climate Interagency Working Group.

In its latest contribution to working with ONMS, CPO has provided $200,000 toward advancing the Climate Smart Sanctuary process at key sites.

Climate-Smart Sanctuaries

Many MPA managers can feel overwhelmed by the impacts of climate change, due to uncertainty about what to do, lack of resources, or both. ONMS has been entrusted with the stewardship of many of the most ecologically, economically, and socially important marine resources in U.S. waters. The

ONMS has therefore developed a Climate-Smart Sanctuary Initiative as a way to help ONMS sites cope with climate change impacts in their regions and communities. Under this process, each site first prepares a climate change site scenario/story. The site then develops and implements a climate change action plan in response to the priority climate impacts identified in the site scenario. The completion of these steps, along with others, such as completing adaptation training and reaching minimal greening operational standards, result in a site becoming certified as a "Climate-Smart Sanctuary."

Sites funded by CPO in Fiscal Year 2011 include the following:

Gulf of the Farallones National Marine Sanctuary (GFNMS)

GFNMS is the first site to pilot the Climate-Smart Sanctuary process, which has been underway for over two years. The site's climate impacts report (serving as their site scenario) was completed last year. Funding from CPO will be used to make further progress toward completion of GFNMS's Climate-Smart work. The funds will be used to support a Postdocs Applying Climate Expertise (PACE) Fellow, who will develop climate change indicators and a subsequent monitoring plan for GFNMS and the North-Central California coast region as a key component of the science chapter of the site's climate change action plan. The funds will also be used to prepare the adaptation chapter of the climate change action plan.

Photo: NOAA

Dedication of the Ocean Climate Center at the Gulf of the Farallones NMS.

Fagatele Bay National Marine Sanctuary (FBNMS)

FBNMS is the second NMSS site to undertake the Climate-Smart Sanctuary process; a draft of their climate change site scenario is currently under review. CPO funds will be used to help extend the site scenario to cover all portions of a proposed site expansion. Currently, there is very limited information available on the potential site-specific climate impacts for locations in American Samoa. In order to address this information gap, a portion of the funding will be used to acquire a global climate model to assess the effects of climate variability and change over time at the proposed sanctuary units. The CPO funding will also be used to:

- Conduct an economic valuation study of the potential costs of climate change to coastal communities in American Samoa;
- Build sentinel site capacities that establish the sanctuary's role as a location for long-term monitoring and research through taking regular measurements of key parameters that serve as indicators of climate change. This work will be conducted in collaboration with the American Samoa Community College (ASCC) Marine Science Program;
- Achieve LEED silver certification or its equivalent for the renovation of the FBNMS Convention Center and Offices; and
- Develop education and outreach materials to promote the Climate-Smart Sanctuary process as a model for other Pacific Island nations.

Olympic Coast National Marine Sanctuary (OCNMS)

With the assistance of funding from CPO, OCNMS will be able to initiate its Climate-Smart Sanctuary work. The site will complete its draft climate change site scenario, in partnership with Washington Sea Grant, the UW Climate Impacts Group, the OCNMS Advisory Council, and the Olympic Coast Intergovernmental Policy Council. This not only advances OCNMS' Climate-Smart Sanctuary work but will also help the Hoh, Makah, and Quileute Tribes and the Quinault Indian Nation prepare for a native people's climate summit being planned in conjunction with the National Museum of the American Indian.

Conclusion

CPO and ONMS have forged a strong and productive partnership that is helping to make a real difference in the sanctuaries and their communities. We will continue to work together in the coming years to achieve the NOAA mission of science, service, and stewardship.

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